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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PIERCE, JEREMY R

ART UNIT

PAPER NUMBER

1771

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/610,748

Applicant(s)

KIM PH. D. ET AL.

Examiner

Jeremy R. Pierce

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-83 is/are pending in the application.
- 4a) Of the above claim(s) 28, 29, 34, 35, 41, 42 and 80-83 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27, 30-33, 38-40, 43-54, and 56-79 is/are rejected.
- 7) ☒ Claim(s) 36, 37 and 55 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-27, 30-33, 36-40, and 43-79, drawn to a fabric with plates, classified in class 428, subclass 911.
 - II. Claims 28, 29, 34, 35, 41, 42, and 80-83, drawn to a method of making a fabric with plates, classified in class 216, subclass 41+.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the fabric can be made by stamping rather than etching.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Steven Koehler on March 5, 2002 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-27, 30-33, 36-40, and 43-79. Affirmation of this election must be made by applicant in replying to this Office action. Claims 28, 29, 34, 35, 41, 42, and 80-83 are

withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

5. The spacing of the lines of the specification is such as to make reading and entry of amendments difficult. New application papers with lines double spaced on good quality paper are required.

Claim Objections

6. Claims 36, 37, and 55 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend on another multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 36, 37, and 55 have not been further treated on the merits.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 8 and 9 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 8 and 9 recite the limitations "continuous portions" and "discontinuous portions", respectively, in the layers. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-7, 10-12, 14-21, 23, 25-27, 30, 33, 39, 43, 45, 59, and 60 rejected under 35 U.S.C. 102(b) as being anticipated by Schaumann (U.S. Patent No. 1,758,296).

Schaumann discloses body armor made by arranging plates of bulletproof material between several layers of a strong but flexible material (column 1, lines 6-32). The plates are placed in a spaced arrangement among three layers such that the plates are staggered (Figure 2). With regard to claims 1 and 14, the fabric acts both as a connecting material and as a base layer. With regard to claims 25-27, 30, and 43, Schaumann disclose metal netting can be incorporated into the fabric.

11. Claim 40 is rejected under 35 U.S.C. 102(b) as being anticipated by Tsien et al. (U.S. Patent No. 5,306,532).

Tsien et al. disclose a protective garment having an array of metal plates held in a spaced array by another layer of metal plates (column 1, lines 20-46 and Figures 1-3).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 8, 9, 22, 24, 31, 32, 38, 44, 46-54, 56-58, 61-79 rejected under 35 U.S.C. 103(a) as being unpatentable over Schaumann.

With regard to claims 8, 9, 46, and 72, Schaumann does not disclose the specific manner in which the layers are bonded to one another. However, bonding the continuous portions or discontinuous portions of the layers would be obvious to a person skilled in the art, if not inherent. It would have been obvious to one skilled in the art to bond the continuous portions of the layers in the armor of Schaumann in order to create a more flexible fabric material. Also, it would have been obvious to one skilled in the art to bond the discontinuous portions of the layers in the armor of Schaumann in order to create a fabric material with improved adhesion between the layers. With regard to claims 22, 24, 32, 38, and 44, Schaumann does not disclose a specific material that is used for the plates. However, the use of polymeric plates and metal plates are very common in the art of protective garments. It would have been obvious to one skilled in the art to use polymeric plates in the garment disclosed by Schaumann in order to provide a fabric that is penetration resistant and lightweight. Also, it would have been obvious to one skilled in the art to use metal plates in the garment disclosed

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by Schaumann in order to provide a fabric with stronger penetration resistance. With regard to claims 31, 38, 44, 47, and 61, the inclusion of a base material, such as another fabric layer to the material of Schaumann would be an obvious modification. The fabric disclosed by Schaumann is composed of layers of plates and strong fabric material that is optionally interwoven with metal wire. It is clear that such material would not be comfortable to a wearer. Also, an additional layer of fabric material would provide more strength to the overall armor. It would have been obvious to one skilled in the art to add an additional base material layer to the armor provided by Schaumann in order to derive additional characteristics, such as wearability, feel, and strength to the armor. With regard to claims 48-52, it would have been obvious to one skilled in the art to modify the armor of Schaumann to have plates placed on both sides of the connecting material in order to create armor with practically the same protection without the use of an additional layer of connecting material. With regard to claims 54, 68, and 76, Schaumann do not disclose the use of a heat curable epoxy for the plates. It would have been obvious to one skilled in the art to use heat curable epoxy for the polymeric plates, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Additionally, with regard to claims 56, 57, 70, 71, 78, and 79, it would have been obvious to one skilled in the art to select polyester chiffon for the connecting material and leather for the base material as a matter of design choice for the intended use.

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14. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schaumann in view of Clausen (U.S. Patent No. 4,292,882).

Schaumann do not disclose an abrasive surface on the plates. Clausen teaches an armor material, wherein a steel plate is provided with an abrasive surface (column 7, lines 10-13). It would have been obvious to one skilled in the art to provide an abrasive surface to the plates of Schaumann in order to create plates that can better deflect ballistic and projectile forces.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Pierce whose telephone number is (703) 605-4243. The examiner can normally be reached on Monday-Thursday 7-4:30 and alternate Fridays 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

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Jeremy R. Pierce

Examiner

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May 3, 2002



ELIZABETH M. COLE
PRIMARY EXAMINER